



Appendix A

(Marked up version of claims 1-15,
underlined amended reissue claims,
and newly added claims 135-165)

1. (Amended). [An automatic] A prescription filling and packing system comprising one or more pill dispensing machines to automatically count out and simultaneously dispense pills into two or more prescription bottles in accordance with prescription orders, means to print literature packs customized to said prescription orders, and order consolidation means to present a shipping container for each prescription order, to insert the one or more prescription bottles for [said] each prescription order into [such] a shipping container and to insert, separately from any prescription bottles inserted into the shipping container, the literature pack for [said] the prescription order into [such] the shipping container, the literature pack and each prescription bottle having an identifier identified by at least one identification system to ensure that the shipping container contains the one or more prescription bottles for the prescription order and the corresponding literature pack.

2. (Amended). The system as recited in claim 1, wherein some of said prescription orders include a plurality of prescriptions, said dispensing [machine] machines dispensing the pills of the prescriptions of a prescription order into separate prescription bottles[, said order consolidation means loading a plurality of prescription bottles of a prescription order containing more than one prescription into a common shipping container with a literature pack for such prescription order].

3. (Amended). [An automatic prescription filling and packing] The system as recited in claim 1 [further comprising means to apply printed prescription labels] wherein the bottle identifiers are applied to said prescription bottles prior to [the insertion of said prescription bottles into a shipping container] dispensing the pharmaceuticals into the bottles.

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4. (Amended). A prescription dispensing and packing system comprising a plurality of bottle carriers each having receptacles to receive a plurality of pill bottles, means to receive orders for prescriptions, means to load prescription bottles corresponding to the prescriptions of said orders into scheduled locations in said carriers, a prescription pill dispensing machine, means to transport said carriers with said prescription bottles through said dispensing machine, said dispensing machine dispensing the pills of said orders into the bottles in said carriers in accordance with the scheduled locations of the pill bottles in said carriers, order consolidation means receiving carriers from said dispensing machine and presenting shipping containers to be filled, [each shipping container corresponding to an order,] said order consolidation means unloading bottles from said carriers, printing a literature pack corresponding to prescription orders, and loading one or more bottles and a corresponding literature pack into a shipping [containers corresponding to the orders] container for each order, said order consolidation means determining each bottle to go in each shipping container from the scheduled location of such bottle in a carrier, the literature pack and each prescription bottle having an identifier identified by at least one identification system to ensure that the shipping container contains the one or more bottles corresponding to the prescription order and the corresponding literature pack.

5. (Amended). A system as recited in claim 4, wherein said order consolidation means comprises [a turntable] an assembly mechanism to receive a plurality of said carriers, a [robotic arm] bottle removing mechanism to unload prescription bottles from the carriers on said turntable and means to transport the bottles unloaded from the carriers into shipping containers.

6. (Twice Amended). A system as recited in claim 4, [including a plurality of] wherein said dispensing machines [each receiving] receive said carriers with bottles and [dispensing] dispenses pharmaceuticals into the prescription bottles corresponding to orders in accordance with the scheduled locations of said prescription bottles in said carriers, conveying means organizing said [carries] carriers into ranks of a plurality of carriers and passing a rank of carriers through said dispensing machines synchronously, said system further comprising a plurality of said order consolidation means and conveyer means to direct all the carriers of a rank to the same order consolidation means.

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8. (Amended). A system for assembling prescriptions by prescription order wherein an order may include more than one prescription bottle, comprising a multiplicity of carriers each having the capability of receiving a multiplicity of prescription bottles in scheduled locations, means responsive to an order to provide prescription bottles filled with pharmaceuticals in accordance with the prescriptions of said patient order in one or more of said carriers, an order consolidation and packing station, means to assemble a plurality of carriers at said order and packing station, and packing means at said order and consolidation station to remove the prescription bottles of said order from the scheduled locations in the carriers of said plurality and pack the bottles of said order in a container with a corresponding literature pack, the literature pack and each prescription bottle having an identifier identified by at least one identification system to ensure that the one or more prescription bottles associated with a corresponding prescription order are inserted into a shipping container with the corresponding literature pack.

9. (Amended). The system as recited in claim 8 further comprising means to print literature for said order [and pack said literature in said container at said consolidation and packing station].

10. (Amended). A system for sorting prescriptions by prescription order comprising a carrier having the capability of receiving a multiplicity of prescription bottles in assigned locations, means responsive to a prescription of an order to provide [a] one or more prescription [bottle] bottles filled with pharmaceuticals in accordance with said prescription in an assigned location in said carrier, an order consolidation and packing station comprising means to receive said carrier and remove said one or more prescription [bottle] bottles from said assigned location in said carrier and pack said one or more prescription [bottle] bottles and a corresponding literature pack in a container [corresponding to said order], the literature pack and each of said one or more prescription bottles having an identifier identified by at least one identification system to ensure that the one or more prescription bottles associated with a corresponding prescription order are inserted into the shipping container with the corresponding literature pack.

11. (Amended). A system as recited in claim 10 further comprising means to print literature corresponding to said order and pack said literature in said container [at said order consolidation and packing station].

12. (Amended). A method of sorting prescription bottles by prescription order comprising identifying one or more prescription bottles corresponding to each order, placing the one or more prescription bottles of each order in scheduled locations in carriers, each carrier having a multiplicity of locations to receive prescription bottles, maintaining a record for each order of the identification of the carriers containing the one or more prescription bottles of each order and the scheduled location in said carriers of each of the one or more prescription [bottle] bottles of each order, and removing the one or more prescription bottles from the scheduled locations in said carriers in accordance with said record and placing the one or more prescription bottles and a corresponding literature pack of each order in a [separate] container.

13. (Amended). A method as recited in claim 12 further comprising applying [a label] an identifier to each prescription bottle identifying the prescription in the order corresponding to said prescription bottle.

14. (Amended). A method as recited in claim [12] 13 [further comprising] wherein the identifier is applied to each of the one or more bottles prior to filling said prescription bottles with pills [in accordance with said patient orders after said prescription bottles have been placed in scheduled locations in said carrier].

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16. A prescription filling and packing system comprising:

at least one dispensing machine that automatically counts and dispenses pharmaceuticals into bottles in accordance with prescription orders comprising at least one prescription;
at least one printer for printing literature packs customized to the prescription orders; and
at least one order consolidation and packing (OCP) station that presents a shipping container for each prescription order and inserts at least one bottle for each prescription order into the shipping container and inserts a corresponding literature pack for each prescription order into the shipping container, the literature pack and each of the at least one bottle having at least one corresponding identifier identified by at least one identification system to ensure that the shipping container contains the at least one bottle associated with the prescription order and the corresponding literature pack.

17. The prescription filling and packing system as recited in claim 16, wherein said at least one OCP station comprises:

an assembly mechanism for assembling a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;
a bottle removing mechanism that removes the at least one bottle corresponding to a particular prescription order from at least one corresponding scheduled location in at least one of the plurality of carriers for subsequent packing of the at least one bottle in the shipping container; and
a bagging machine that receives the at least one bottle corresponding to the particular prescription order from said bottle removing mechanism and inserts the at least one bottle corresponding to the particular prescription order into the shipping container.

18. The prescription filling and packing system as recited in claim 17 wherein said at least one OCP station further comprises a buffer that temporarily stores the plurality of carriers before they are received at said turntable.

19. The prescription filling and packing system as recited in claim 17 wherein each of said at least one dispensing machine receives at least one of the plurality of carriers and dispenses pharmaceuticals into the bottles corresponding to each prescription order in accordance with the scheduled locations of the plurality of bottles in the plurality of carriers, and further comprising at least one transport device that organizes the plurality of carriers into ranks of carriers and passes the ranks of carriers through at least two of said at least one dispensing machine synchronously, wherein each said at least one OCP station receives all the carriers of a rank.

20. The prescription filling and packing system as recited in claim 17 wherein said at least one OCP station further comprises a system that receives the at least one bottle from said bottle removing mechanism and inserts the at least one bottle into said bagging machine.

21. The prescription filling and packing system as recited in claim 20 wherein said system comprises a first wheel that rotates about a vertical axis and receives the at least one bottle from said bottle removing mechanism and a second wheel that rotates about a horizontal axis and receives the at least one bottle from said first wheel and inserts the at least one bottle into said bagging machine.

22. The prescription filling and packing system as recited in claim 17 wherein said bottle removing mechanism comprises a mechanical arm.

23. The prescription filling and packing system as recited in claim 17 further comprising an applicator that affixes the an identifier identified by at least one identification system to each of the at least one bottle.

24. The prescription filling and packing system as recited in claim 23 wherein said applicator affixes the identifier to each of the at least one bottle prior to dispensing pharmaceuticals therein.

25. The prescription filling and packing system as recited in claim 16 wherein the shipping container has an identifier affixed thereto identified by the at least one identification system.

26. The prescription filling and packing system as recited in claim 25 wherein the shipping container identifier comprises a patient order identification.

27. The prescription filling and packing system as recited in claim 16 wherein for each prescription order comprising a plurality of prescriptions, said at least one dispensing machine dispenses each prescription into a separate bottle for each prescription, and said at least one OCP station loads the separate bottles for each prescription into a common shipping container.

28. The prescription filling and packing system as recited in claim 16 wherein the bottles are presented to said at least one OCP station in a plurality of carriers, each having receptacles to receive a plurality of bottles, the plurality of carriers each having an identification affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

29. The prescription filling and packing system as recited in claim 28 wherein the identification is a radio frequency identifier.

23 30. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

a computer that receives prescription orders comprising at least one prescription;

a loading station that loads the plurality of bottles in the scheduled locations corresponding to the prescription orders in at least one of said plurality of carriers;

at least one dispensing machine that counts and simultaneously dispenses pharmaceuticals into at least two of the plurality of bottles;

at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least one dispensing machine, said at least one dispensing machine simultaneously dispensing the pharmaceuticals into at least two bottles of the prescription orders received by said computer into the plurality of bottles in said plurality of carriers in accordance with the scheduled locations; and

at least one order consolidation and packing (OCP) station that receives said plurality of carriers from said at least one dispensing machine and presents shipping containers to be filled, said at least one OCP station unloading the plurality of bottles from said plurality of carriers and loading at least one of the plurality of bottles and a corresponding customized literature pack corresponding to a prescription order into a shipping container, the literature pack and each of the bottles having at least one corresponding identifier identified by at least one identification system to ensure that each of one or more bottles associated with the corresponding prescription order are inserted into the shipping container with the corresponding literature pack.

31. The prescription dispensing and packing system as recited in claim 30, wherein said literature pack is inserted into the shipping container separately from the bottles.

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32. The prescription dispensing and packing system as recited in claim 30, wherein said at least one OCP station comprises:

an assembly mechanism for assembling said plurality of carriers;

a bottle removing mechanism that removes the at least one of the plurality of bottles corresponding to each of the at least one of the prescription orders from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one of the plurality of bottles in the shipping container;
and

a bagging machine that receives the at least one of the plurality of bottles corresponding to each of the at least one of the prescription orders from said bottle removing mechanism and inserts the at least one of the plurality of bottles corresponding to each of the at least one of the prescription orders into the shipping container.

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34. The prescription dispensing and packing system as recited in claim 32 wherein said at least one OCP station further comprises a star wheel system that receives the at least one of the plurality of bottles from said bottle removing mechanism and inserts the at least one of the plurality of bottles into said bagging machine.

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35. The prescription dispensing and packing system as recited in claim 34 wherein said star wheel system comprises a first star wheel that rotates about a vertical axis and receives the at least one of the plurality of bottles from said bottle removing mechanism and a second star wheel that rotates about a horizontal axis and receives the at least one of the plurality of bottles from said first star wheel and inserts the at least one of the plurality of bottles into said bagging machine.

36. The prescription dispensing and packing system as recited in claim 30 further comprising at least one printer that prints the identifier for each of the at least one of the plurality of bottles.

37. The prescription dispensing and packing system as recited in claim 36 further comprising an applicator that affixes the identifier on each of the at least one of the plurality of bottles in accordance with each of the at least one of the prescription orders prior to dispensing pharmaceuticals into the bottles.

38. The prescription dispensing and packing system as recited in claim 29 wherein the shipping container has an identifier affixed thereto corresponding to each of the at least one prescription orders.

39. The prescription dispensing and packing system as recited in claim 38 wherein the identifier comprises a patient order identification.

40. The prescription dispensing and packing system as recited in claim 30 wherein each of said at least one dispensing machine receives at least one of said plurality of carriers and dispenses pharmaceuticals into the bottles corresponding to the at least one of the prescription orders in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers, wherein each of said at least one transport device organizes respective said plurality of carriers into ranks of carriers and passes the ranks of carriers through at least two of said at least one dispensing machine synchronously, and wherein each respective said at least one OCP station receives all the carriers of a rank.

42. The prescription dispensing and packing system as recited in claim 30 wherein each of said plurality of carriers has an identifier affixed thereto to ensure that the correct carrier is presented to said at least one OCR station.

43. The prescription dispensing and packing system as recited in claim 42 wherein the identifier is a radio frequency identifier.

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44. A system for assembling prescriptions by prescription order, comprising:
at least one carrier, each having receptacles to receive at least one bottle in scheduled
locations;
at least one dispensing machine responsive to at least one prescription order comprising at
least one prescription to fill one or more bottles in any of said at least one carrier with
pharmaceuticals in accordance with the at least one prescription order; and
at least one order consolidation and packing (OCP) station at which the one or more bottles
corresponding to a prescription order are unloaded from said at least one carrier and
placed in a shipping container with a literature pack corresponding to the prescription
order, each of the one or more bottles and the literature pack having at least one
corresponding identifier identified by at least one identification system to ensure that the
shipping container contains the one or more bottles corresponding to the prescription
order and the corresponding literature pack.

45. The system as recited in claim 44 wherein said at least one OCP station comprises:
an assembly mechanism for assembling said at least one carrier;
a bottle removing mechanism that removes the at least one bottle corresponding to the at
least one prescription order from the scheduled locations in said at least one carrier for
subsequent packing of the at least one bottle corresponding to the at least one prescription
order in a shipping container; and
a bagging machine that receives the at least one bottle corresponding to the at least one
prescription order from said bottle removing mechanism and inserts the at least one bottle
in the shipping container corresponding to the at least one prescription order.

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47. The system as recited in claims 45 wherein said at least one OCP station further
comprises a star wheel system that receives the at least one bottle from said bottle removing
mechanism and inserts the at least one bottle into said bagging machine.

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48. The system as recited in claim 47 wherein said star wheel system further comprises a first star wheel that rotates about a vertical axis and receives the at least one bottle from said bottle removing mechanism and a second star wheel that rotates about a horizontal axis and receives the at least one bottle from said first star wheel and inserts the at least one bottle into said bagging machine.

49. The system as recited in claim 44 further comprising at least one printer for printing the identifier for each of the at least one bottle and for printing a literature pack for the at least one prescription order.

50. The system as recited in claim 49 further comprising an applicator that affixes the identifier on each of the at least one bottle in accordance with the at least one prescription order.

51. The system as recited in claim 50 wherein said applicator affixes the identifier on each of the at least one bottle prior to filling each of the at least one bottle with pharmaceuticals.

52. The system as recited in claim 44 wherein the shipping container has an identifier affixed thereto corresponding to each of the at least one prescription order.

53. The system as recited in claim 52 wherein the identifier comprises a patient order identification.

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56. The system as recited in claim 44 wherein each of said at least one carrier has an identifier affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

57. The system as recited in claim 56 wherein the identifier is a radio frequency identifier.

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58. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

a computer that receives prescription orders comprising at least one prescription;

at least one loading station that loads the plurality of bottles into the scheduled locations of said plurality of carriers;

at least one dispensing machine responsive to said computer that counts and simultaneously dispenses pharmaceuticals into at least two of the plurality of bottles;

at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least one dispensing machine, said at least one dispensing machine dispensing the pharmaceuticals of the prescription orders received by said computer into the plurality of bottles in said plurality of carriers in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers; and

at least one order consolidation and packing (OCP) station that receives said plurality of carriers from said at least one dispensing machine and presents shipping containers to be filled, and inserts at least one of the plurality of bottles and a corresponding literature pack for the prescription order into a shipping container corresponding to the prescription order, the literature pack and each of the at least one bottle having at least one corresponding identifier identified by at least one identification system so that the shipping container receives the at least one bottle and the literature pack corresponding to the prescription order.

59. The prescription dispensing and packing system as recited in claim 58 wherein said at least one OCP station determines which of the at least one bottle is inserted in each respective shipping container from the respective literature pack identifier and respective prescription bottle identifier.

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60. The prescription dispensing and packing system as recited in claim 58, wherein said at least one OCP station comprises:

an assembly mechanism for assembling said plurality of carriers;

a bottle removing mechanism that removes the at least one of the plurality of bottles corresponding to the prescription order from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one of the plurality of bottles in the shipping container; and

a bagging machine that receives the at least one of the plurality of bottles corresponding to the prescription order from said bottle removing mechanism and inserts the at least one of the plurality of bottles corresponding to the prescription order in the shipping container.

61. The prescription dispensing and packing system as recited in claim 60 wherein said bottle removing mechanism is responsive to said computer in determining which of the at least one of the plurality of bottles is packed in the shipping container corresponding to the prescription order.

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63. The prescription dispensing and packing system as recited in claim 60 wherein said at least one OCP station further comprises a star wheel system that receives the at least one of the plurality of bottles from said bottle removing mechanism and inserts the at least one of the plurality of bottles into said bagging machine.

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64. The prescription dispensing and packing system as recited in claim 63 wherein said star wheel system further comprises a first star wheel that rotates about a vertical axis and receives the at least one of the plurality of bottles from said bottle removing mechanism and a second star wheel that rotates about a horizontal axis and receives the at least one of the plurality of bottles from said first star wheel and inserts the at least one of the plurality of bottles into said bagging machine.

65. The prescription dispensing and packing system as recited in claim 58 further comprising at least one printer for printing an identifier for each of the at least one of the plurality of bottles and for printing the literature pack for the prescription order.

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66. The prescription dispensing and packing system as recited in claim 65 wherein said bagging machine inserts the literature pack corresponding to the prescription order into the shipping container.

67. The prescription dispensing and packing system as recited in claim 65 further comprising an applicator that affixes one of the prescription labels on each of the at least one of the plurality of bottles in accordance with the prescription order.

68. The prescription dispensing and packing system as recited in claim 67 wherein said applicator affixes an identifier on each of the at least one of the plurality of bottles prior to insertion of the at least one of the plurality of bottles into the shipping container corresponding to the prescription order] carriers.

69. The prescription dispensing and packing system as recited in claim 68 wherein the shipping container has an identifier affixed thereto corresponding to the prescription order.

70. The prescription dispensing and packing system as recited in claim 69 wherein the shipping container identifier comprises a patient order identification.

71. The prescription dispensing and packing system as recited in claim 58 wherein each of said at least one dispensing machine receives at least one of said plurality of carriers and dispenses pharmaceuticals into the at least one of the plurality of bottles corresponding to the prescription order in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers, wherein each of said at least one transport device organizes said plurality of carriers into ranks of carriers and passes the ranks of carriers through at least two of said at least one dispensing machine synchronously, and wherein each respective said at least one OCP station receives all the carriers of a rank.

72. The prescription dispensing and packing system as recited in claim 58 wherein for each prescription order comprising a plurality of prescriptions, said at least one dispensing machine dispenses each prescription into a separate bottle for each prescription, and said at least one OCP station loads the separate bottles for each prescription into a common shipping container.

73. The prescription dispensing and packing system as recited in claim 58 wherein each of said plurality of carriers has an identifier affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

74. The prescription dispensing and packing system as recited in claim 73 wherein the identifier is a radio frequency identifier.

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75. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles;

at least one loading station that loads at least one of the plurality of bottles into at least one of said plurality of carriers;

at least one dispensing machine that counts and simultaneously dispenses pharmaceuticals into at least two of the plurality of bottles in accordance with prescription orders;

at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least one dispensing machine, said at least one dispensing machine dispensing the pharmaceuticals of the prescription orders into the plurality of bottles corresponding to the prescription orders; and

at least one order consolidation and packing (OCP) station that receives said plurality of carriers from said at least one dispensing machine and presents shipping containers to be filled, said at least one OCP station unloading the plurality of bottles from said plurality of carriers and loading at least one of the plurality of bottles and a corresponding literature pack into a shipping container, said at least one OCP station determining which of the at least one of the plurality of bottles and corresponding literature pack goes into each shipping container, each of the one or more bottles and the literature pack having at least one corresponding identifier identified by at least one identification system to ensure that each of the at least one bottles associated with a prescription order is inserted into the shipping container with the corresponding literature pack.

76. The prescription dispensing and packing system as recited in claim 75, wherein said literature pack is inserted into the shipping container separately from the bottles.

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a bottle removing mechanism that removes the at least one of the plurality of bottles

a bagging machine that receives the at least one of the plurality of bottles corresponding to the prescription order from said bottle removing mechanism and inserts the at least one of the plurality of bottles corresponding to the prescription order into the shipping container corresponding to the prescription order.

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81. The prescription dispensing and packing system as recited in claim 76 further comprising at least one printer for printing the identifier for each of the at least one of the plurality of bottles and for printing a literature pack for the prescription order.

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73. 83. The prescription dispensing and packing system as recited in claim 81 further comprising an applicator that affixes an identifier on each of the at least one of the plurality of bottles in accordance with the prescription order.

74. 84. The prescription dispensing and packing system as recited in claim 75 wherein the shipping container has an identifier affixed thereto.

75. 85. The prescription dispensing and packing system as recited in claim 84 wherein the shipping container identifier comprises a patient order identification.

76. 86. The prescription dispensing and packing system as recited in claim 83 wherein said applicator affixes the identifier to each of the at least one of the plurality of bottles prior to insertion of the at least one of the plurality of bottles into at least one of said plurality of carriers.

77. 89. The prescription dispensing and packing system as recited in claim 75 wherein each of said at least one carrier has an identifier affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

78. 90. The prescription dispensing and packing system as recited in claim 89 wherein the identifier is a radio frequency identifier.

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91. A method for filling and packaging a prescription order comprising at least one prescription, comprising one of sequential and non-sequential steps of:
counting out and dispensing pharmaceuticals into at least one bottle in accordance with at least one prescription order, each of the at least one bottles having a first identifier corresponding to a prescription order;
printing at least one literature pack customized to each of the at least one prescription order, the literature pack having a second identifier corresponding to the prescription order;
identifying, by an identification device, the first and second identifiers;
filling the prescriptions with the at least one bottle corresponding to each of the at least one prescription order;
inserting the literature pack corresponding to each of the at least one prescription order into the shipping container; and
shipping the filled prescription order by sending the prescription order to a customer in a shipping container.

92. The method as recited in claim 91 further comprising the step of applying an identifier to each of the at least one bottle corresponding to each of the at least one prescription order.

93. The method as recited in claim 92 wherein each identifier is applied prior to dispensing.

94. The method as recited in claim 92 further comprising the step of providing an identifier for the shipping container.

95. The method as recited in claim 94 wherein the shipping container identifier is comprises a patient order identification.

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96. A method of dispensing and packing pharmaceuticals comprising one of sequential and non-sequential steps of:

providing a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

receiving at least one prescription order, each of the at least one prescription order comprising at least one prescription;

loading at least one bottle, each bottle having a first identifier affixed thereto, corresponding to each of the at least one prescription order into scheduled locations into at least one of the plurality of carriers;

transporting the plurality of carriers with the prescription bottles through at least one dispensing device that simultaneously dispenses pharmaceuticals into at least two of the plurality of bottles in accordance with the scheduled locations of the plurality of bottles in the plurality of carriers;

printing one or more literature packs customized to each of said at least one prescription order, the literature packs having a second identifier corresponding to a prescription order;

identifying, by an identification device, the first and second identifiers; and

loading at least one of the plurality of bottles and a corresponding literature pack into a shipping container.

97. The method as recited in claim 96 further comprising the step of automatically applying a respective first identifier to each of the at least one of the plurality of bottles.

98. The method as recited in claim 97 wherein the identifiers are applied prior to said loading at least one bottle step.

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99. The method as recited in claim 96 wherein each of the at least one dispensing device receives at least one of the plurality of carriers and dispenses pharmaceuticals into the plurality of bottles corresponding to each of the at least one prescription order in accordance with the scheduled locations, and further comprising the step of organizing the plurality of carriers into ranks of carriers and passing the ranks of carriers through at least two of the at least one dispensing device synchronously.

100. The method as recited in claim 96 further comprising the step of providing a third identifier on the shipping container.

101. The method as recited in claim 100 wherein the shipping container identifier comprises a patient order identification.

102. The method as recited in claim 96 further comprising the step of affixing a fourth identifier to each of the plurality of carriers to ensure that the correct carrier is received at the at least one dispensing device.

103. The method as recited in claim 102 wherein the fourth identifiers comprise a radio frequency identifier.

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104. A method of assembling prescriptions by prescription order, comprising one of sequential and non-sequential steps of:

providing a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations, each of the bottles having a first identifier affixed thereto corresponding to a prescription order comprising at least one prescription;

providing at least one dispensing device that, in response to a prescription order, fills at least one of the plurality of bottles with pharmaceuticals;

printing literature packs customized to a prescription order, the literature pack having a second identifier affixed thereto corresponding to the prescription order;

reading, by respective literature pack and prescription bottle readers, the literature pack and bottle identifiers; and

packing the at least one of the plurality of bottles and a literature pack corresponding to the prescription order in a shipping container corresponding to the prescription order.

105. The method as recited in claim 104 wherein the literature pack is inserted into the shipping container prior to the at least one of the plurality of bottles.

106. The method as recited in claim 105 further comprising the step of providing a third identifier on the shipping container.

107. The method as recited in claim 106 wherein the shipping container identifiers comprise a patient order identification.

108. The method as recited in claim 104 further comprising the step of affixing a third identifier on each of the plurality of carriers to ensure that the correct carrier is received at the at least one dispensing device.

109. The method as recited in claim 108 wherein the third identifier is a radio frequency identifier.

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110. A method for sorting prescriptions by prescription order, comprising the steps of:
receiving a plurality of bottles, each having a first identifier affixed thereto corresponding to
a prescription of a prescription order comprising at least one prescription and an assigned
location in a bottle carrier corresponding to a prescription order;
filling at least one of the plurality of bottles with pharmaceuticals in accordance with the
prescription order;
printing a literature pack customized to a particular prescription order, the literature pack
having a second identifier corresponding to the particular prescription order;
identifying, by an identification device, the first and second identifiers; and
using the read identifiers to pack at least one of the plurality of bottles and a corresponding
literature pack in a shipping container.
111. The method as recited in claim 110 wherein the literature pack is inserted into the
shipping container prior to the at least one of the plurality of bottles.
112. The method as recited in claim 111 further comprising the step of providing a third
identifier on the shipping container.
113. The method as recited in claim 110 wherein the shipping container identifiers comprise
patient order information.

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114. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations, each of the plurality of bottles having a first identifier affixed thereto corresponding to a prescription of a prescription order comprising one or more prescriptions;

printing a literature pack customized to a particular prescription order, the literature pack having a second identifier affixed thereto corresponding to the particular prescription order;

a computer that receives prescription orders;

at least one dispensing machine responsive to said computer that automatically counts and dispenses the type and quantity of pharmaceuticals into the plurality of bottles in accordance with the prescription orders in the scheduled locations of the corresponding plurality of carriers; and

a packing station comprising at least one label reader that places a literature pack and one or more bottles corresponding to a prescription order into a shipping container.

115. The prescription dispensing and packing system as recited in claim 114 wherein the shipping container has a third identifier affixed thereto.

116. The prescription dispensing and packing system as recited in claim 115 wherein said at least one OCP station comprises:

an assembly mechanism for assembling said plurality of carriers;

a bottle removing mechanism that removes at least one bottle corresponding to a prescription order from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one bottle in a shipping container corresponding to the prescription order; and

a bagging machine that receives the at least one bottle corresponding to the prescription order from said bottle removing mechanism and inserts the at least one bottle corresponding to the prescription order in the shipping container.

117. The prescription dispensing and packing system as recited in claim 116 wherein said at least one OCP station further comprises a printer that prints a literature pack for the prescription order.

118. The prescription dispensing and packing system as recited in claim 116 wherein said computer verifies that the respective bottle and literature pack identifiers are associated with the same prescription order, said bagging machine inserting the literature pack into the shipping container with the at least one bottle corresponding to the prescription order.

119. The prescription dispensing and packing system as recited in claim 116 wherein said at least one OCP station further comprises a star wheel system that receives the at least one bottle from said bottle removing mechanism and inserts the at least one bottle into said bagging machine.

120. The prescription dispensing and packing system as recited in claim 119 wherein said star wheel system comprises a first star wheel that rotates about a vertical axis and receives the at least one bottle from said bottle removing mechanism and a second star wheel that rotates about a horizontal axis and receives the at least one bottle from said first star wheel and inserts said at least one bottle into said bagging machine.

122. The prescription dispensing and packing system as recited in claim 114 wherein each of said plurality of carriers has fourth identifier affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

123. The prescription dispensing and packing system as recited in claim 122 wherein the fourth identifier is a radio frequency identifier.

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124. A method of operating a pharmaceutical dispensing line, comprising the steps of:
in a single run, simultaneously dispensing different quantities of different pharmaceuticals in
accordance with at least one prescription order comprising at least one prescription into
one or more bottles positioned in one or more carriers, each carrier having receptacles to
receive a plurality of bottles;
affixing a first identifier to the bottles, corresponding to a prescription of a prescription
order, that identify the quantity and type of pharmaceuticals contained in each bottle,
thereby providing individual prescription orders for shipping to customers;
filling at least one of the plurality of bottles with pharmaceuticals in accordance with the
prescription order;
printing a literature pack customized to a particular prescription order, the literature pack
having a second identifier affixed thereto corresponding to the particular prescription
order;
reading electronically the literature pack and bottle identifiers; and
using the read identifier information to pack at least one of the plurality of bottles and a
corresponding literature pack in a shipping container corresponding to the prescription
order.

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127. The method as recited in claim 126 wherein the literature pack is inserted into the
shipping container prior to the at least one of the plurality of bottles.

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128. The method as recited in claim 127 further comprising the step of providing a third
identifier on the shipping container.

129. The method as recited in claim 128 wherein the third identifier comprises patient order
information.

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130. A method of operating a pharmaceutical dispensing line, comprising the steps of:
dispensing, simultaneously in a single run, different quantities of different pharmaceuticals
in accordance with prescription orders comprising at least one prescription into one or
more bottles positioned in one or more carriers, each carrier having receptacles to receive
a plurality of bottles;
affixing automatically to each of the bottles first identifiers that identify the quantity and
type of pharmaceuticals contained in each of the bottles;
filling at least one of the plurality of bottles with pharmaceuticals in accordance with the
prescription order;
printing a literature pack customized to each of a particular prescription order, the literature
pack having second identifiers affixed thereto corresponding to the particular prescription
order;
reading electronically, by respective literature pack and prescription bottle readers, the
literature pack and bottle identifiers; and
packaging at least one of the plurality of bottles and a literature pack corresponding to
prescription orders in containers, thereby providing individual prescription orders for
shipping to customers.

like 130
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133. The method as recited in claim 130 wherein said affixing step occurs prior to
dispensing and comprises the step of printing a respective individual identifiers for each of the
bottles.

135. A method of operating a pharmaceutical dispensing line, comprising the steps of:
in a single run, dispensing simultaneously different quantities of different pharmaceuticals in
accordance with at least one prescription order comprising at least one prescription;
affixing a first identifier, prior to said dispensing step, to each of the bottles that identify the
quantity and type of pharmaceuticals contained in each bottle, thereby providing
individual prescription orders for shipping to customers;
filling at least one of the plurality of bottles with pharmaceuticals in accordance with the
prescription order;
printing a literature pack customized to each of a particular prescription order, the literature
pack having a second identifier affixed thereto corresponding to the particular
prescription order;
identifying, by an identification device, the first and second identifiers; and
packaging at least one of the plurality of bottles and a literature pack corresponding to
prescription orders in containers, thereby providing individual prescription orders for
shipping to customers.

136. A prescription dispensing and packing system comprising:
a carrier with multiple bottles for receiving dispensed pharmaceuticals;
a computer that receives prescription orders;
at least one dispensing machine responsive to said computer that automatically counts and
dispenses the type and quantity of pharmaceuticals into the multiple bottles in accordance
with the prescription orders; and
at least one order consolidation and packing (OCP) station at which at least one or more
bottles corresponding to a prescription order are unloaded from said carrier and placed in
a shipping container with a literature pack corresponding to the prescription order, each
of the one or more bottles and the literature pack having an identifier read by an
identification reader to ensure that each of the one or more bottles associated with a
prescription order is inserted into the shipping container with the corresponding literature
pack.

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137. An automatic prescription filling and packing system comprising:
at least one dispensing machine that automatically counts and simultaneously dispenses
pharmaceuticals into two or more bottles, each bottle having a first identifier
corresponding to a prescription, the bottles positioned in a carrier;
at least one printer for printing literature packs customized to a prescription order
comprising one or more prescriptions; and
at least one order consolidation and packing (OCP) station that presents a shipping container
for each prescription order and inserts at least one bottle for each prescription order into
the shipping container and inserts a corresponding literature pack for each prescription
order into the shipping container, each of the one or more bottles and the literature pack
having an identifier that can be read electronically read to ensure that each of the one or
more bottles associated with a prescription order is inserted into the shipping container
with the corresponding literature pack.

138. A prescription dispensing and packing system comprising:
a carrier with multiple bottles that each receive dispensed pharmaceuticals;
a computer that receives prescription orders;
at least one dispensing machine responsive to said computer that automatically counts and
simultaneously dispenses the type and quantity of pharmaceuticals into at least two of the
multiple bottles in accordance with the prescription orders; and
at least one order consolidation and packing (OCP) station that presents a shipping container
for each prescription order and inserts at least one bottle for each prescription order into
the shipping container and inserts a corresponding literature pack for each prescription
order into the shipping container corresponding to the prescription order, each of the one
or more bottles and the literature pack having an identifier that can be read by respective
literature pack and prescription bottle readers to ensure that each of the one or more
bottles associated with a prescription order is inserted into the shipping container with the
corresponding literature pack.

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139. An automatic prescription filling and packing system comprising:
at least one dispensing machine that automatically counts and simultaneously dispenses
pharmaceuticals into at least two bottles positioned within a carrier;
at least one printer for printing literature packs customized to a prescription order associated
with each of the at least two bottles; and
at least one order consolidation and packing (OCP) station that presents a shipping container
for each prescription order and inserts at least one bottle for each prescription order into
the shipping container and inserts a corresponding literature pack for each prescription
order into the shipping container, each of the one or more bottles and the literature pack
having an identifier to ensure that each of the one or more bottles associated with a
prescription order is inserted into the shipping container with the corresponding literature
pack.

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140. A prescription dispensing and packing system comprising:
a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;
a computer that receives prescription orders comprising at least one prescription;
a loading station that loads the plurality of bottles in the scheduled locations corresponding to the prescription orders in at least one of said plurality of carriers;
at least two dispensing machines that count and simultaneously dispense pharmaceuticals into the plurality of bottles;
at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least two dispensing machines, said at least two dispensing machines dispensing the pharmaceuticals of the prescription orders received by said computer into the plurality of bottles in said plurality of carriers in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers; and
at least one order consolidation and packing (OCP) station that receives said plurality of carriers from said at least two dispensing machines and presents shipping containers to be filled, each shipping container corresponding to at least one of the prescription orders, said at least one OCP station unloading the plurality of bottles from said plurality of carriers and loading at least one of the plurality of bottles into at least one shipping container corresponding to at least one of the prescription orders, said at least one OCP station determining which of the plurality of bottles goes into the at least one shipping container corresponding to the at least one of the prescription orders from the scheduled location of the plurality of bottles in said plurality of carriers, each of the one or more bottles and the literature pack having an identifier read by respective literature pack and prescription bottle readers to ensure that each of the one or more bottles associated with a prescription order is inserted into the shipping container with the corresponding literature pack.

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141. An automatic prescription filling and packing system comprising:
one or more pill dispensing machines to automatically count out and dispense pills into one
or more prescription bottles in accordance with prescription orders;
a printer to print one or more literature packs customized to said prescription orders; and
an order consolidation station to present a shipping container for each order, to insert the one
or more prescription bottles for said order into the shipping container and to insert, with
the one or more literature packs for said order into the shipping container, the one or
more literature packs and the one or more prescription bottles having indicia read by a
respective literature pack reader and a respective prescription bottle label reader
associated with said order consolidation station to ensure that the one or more
prescription bottles associated with said order are inserted into the shipping container
with the one or more literature packs.

142. The system as recited in claim 141, wherein some of said prescription orders include a
plurality of prescriptions, at least one of said dispensing machines dispensing the pills of the
prescriptions of a prescription order into separate prescription bottles.

143. An automatic prescription filling and packing system as recited in claim 141 wherein
the indicia is applied to said prescription bottles prior to dispensing the pharmaceuticals into the
bottles.

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144. A prescription dispensing and packing system comprising:

a plurality of bottle carriers each having receptacles to receive a plurality of pill bottles;

a computer that receives orders for prescriptions;

a loading system that loads prescription bottles corresponding to the prescriptions of said orders into scheduled locations in said carriers;

a prescription pill dispensing machine;

a mechanism that transports said carriers with said prescription bottles through said dispensing machine, said dispensing machine dispensing the pills of said orders into the bottles in said carriers in accordance with the scheduled locations of the pill bottles in said carriers;

an order consolidation station that receives carriers from said dispensing machine and presents shipping containers to be filled, said order consolidation station unloading bottles from said carriers, said order consolidation station comprising a printer that prints a literature pack corresponding to prescription orders, and further comprising a bottle removing mechanism that loads bottles and a corresponding literature pack into a shipping container for each order, said order consolidation station determining each bottle to go in each shipping container from the scheduled location of such bottle in a carrier, the literature packs and each prescription bottle having indicia electronically read by a respective literature pack reader and a respective prescription bottle indicia reader associated with said order consolidation station to ensure that the one or more prescription bottles associated with a corresponding prescription order are inserted into a shipping container with a corresponding literature pack.

145. A system as recited in claim 144, wherein said order consolidation station comprises a turntable to receive a plurality of said carriers and transport the bottles unloaded from the carriers into shipping containers.

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146. A system as recited in claim 144, including:

a plurality of dispensing machines each receiving carriers with bottles and dispensing pharmaceuticals into the prescription bottles corresponding to orders in accordance with the scheduled locations of said prescription bottles in said carriers;

a plurality of transport mechanisms, each receiving one of said carriers, thereby arranging said carriers into ranks of a plurality of carriers and passing a rank of carriers through said dispensing machines synchronously, said system further comprising a plurality of said stations, wherein said transport mechanisms direct all the carriers of a rank to the same station.

147. A system as recited in claim 144, wherein some of said orders include a plurality of prescriptions, said automatic dispensing machine dispensing each prescription of an order in a separate bottle, said station loading a plurality of bottles of an order into a common shipping container.

148. A system for assembling prescriptions by prescription order wherein an order may include more than one prescription bottle, comprising:

a multiplicity of carriers each having the capability of receiving a multiplicity of prescription bottles in scheduled locations;

a computer responsive to an order to provide prescription bottles filled with pharmaceuticals in accordance with the prescriptions of said patient order in one or more of said carriers; an order consolidation and packing station;

an assembly station to assemble a plurality of carriers at said order and packing station; and a bagging machine at said order and consolidation station to remove the prescription bottles of said order from the scheduled locations in the carriers of said plurality and pack the bottles of said order in a container with a corresponding literature pack, the literature pack and each prescription bottle having an identifier read by a respective literature pack identification reader and a respective prescription bottle identification reader to ensure that the one or more prescription bottles associated with a corresponding prescription order are inserted into a shipping container with the corresponding literature pack.

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149. The system as recited in claim 148 further comprising at least one printer associated with said order consolidation and packing station to print literature packs.

150. A system for sorting prescriptions by prescription order comprising:
a carrier having the capability of receiving a multiplicity of prescription bottles in assigned locations;

a computer responsive to a prescription of an order to provide one or more prescription bottles filled with pharmaceuticals in accordance with said prescription in an assigned location in said carrier;

an order consolidation and packing station comprising an assembly station to receive said carrier and remove said one or more prescription bottles from said assigned location in said carrier and pack said one or more prescription bottles and a corresponding literature pack in a container, the literature pack and each of said one or more prescription bottles having an identifier read by a respective literature pack identification reader and a respective prescription bottle identification reader to ensure that the one or more prescription bottles associated with a corresponding prescription order are inserted into the shipping container with the corresponding literature pack.

151. A system as recited in claim 150 wherein the identifier is a bar code.

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152. An automatic prescription filling and packing system comprising:
one or more pill dispensing machines to automatically count out and dispense pills into one
or more prescription bottles in accordance with prescription orders;
a printer to print one or more literature packs customized to said prescription orders; and
an order consolidation station to present a shipping container for each order, to insert the one
or more prescription bottles for said order into the shipping container and to insert, with
the one or more literature packs for said order into the shipping container, the one or
more literature packs and the one or more prescription bottles having an identifier read by
a reader associated with said order consolidation station to ensure that the one or more
prescription bottles associated with said order are inserted into the shipping container
with the one or more literature packs.

153. A prescription filling and packing system comprising: 11
at least one dispensing machine that automatically counts and dispenses pharmaceuticals
into bottles in accordance with prescription orders comprising at least one prescription;
at least one printer for printing literature packs customized to the prescription orders; and
at least one order consolidation and packing (OCP) station comprising:
an assembly mechanism for assembling a plurality of carriers, each having receptacles to
receive a plurality of bottles in scheduled locations;
a bottle removing mechanism that removes at least one bottle corresponding to a
particular prescription order from a respective scheduled location in at least one of the
plurality of carriers for subsequent packing in a shipping container;
a reader that electronically reads an identifier on each of said at least one bottle and
electronically reads an identifier on the literature pack to ensure that each of the at
least one bottle is inserted into the shipping container with the corresponding
literature pack; and
a bagging machine that receives from said bottle removing mechanism the at least one
bottle, and receives the literature pack corresponding to the particular prescription
order, said bagging machine inserting the at least one bottle and the literature pack
into the shipping container.

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154. A system for assembling prescriptions by prescription order, comprising:
at least one carrier, each having receptacles to receive at least one bottle in scheduled
locations;
at least one dispensing machine responsive to at least one prescription order comprising at
least one prescription to fill one or more bottles in any of said at least one carrier with
pharmaceuticals in accordance with the at least one prescription order; and
at least one order consolidation and packing (OCP) station comprising:
an assembly mechanism for assembling said at least one carrier;
a printer that prints a literature pack for at least one prescription order;
a bottle removing mechanism that removes the at least one bottle corresponding to the at
least one prescription order from the scheduled locations in said at least one carrier
for subsequent packing of the at least one bottle corresponding to the at least one
prescription order in a shipping container;
at least one reader that electronically reads a first identifier on each of said at least one bottle
and electronically reads a second identifier on the literature pack corresponding to the
prescription order to ensure that each of the at least one bottle is inserted into the shipping
container with the corresponding literature pack; and
a bagging machine that receives the at least one bottle corresponding to the at least one
prescription order from said bottle removing mechanism and inserts the at least one
bottle and the corresponding literature pack in the shipping container.

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155. A prescription dispensing and packing system comprising:
a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;
a computer that receives prescription orders comprising at least one prescription;
at least one loading station that loads the plurality of bottles into the scheduled locations of said plurality of carriers;
at least one dispensing machine responsive to said computer that counts and simultaneously dispenses pharmaceuticals into at least one of the plurality of bottles;
at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least one dispensing machine, said at least one dispensing machine dispensing the pharmaceuticals of the prescription orders received by said computer into the plurality of bottles in said plurality of carriers in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers; and
at least one order consolidation and packing (OCP) station comprising:
an assembly mechanism for assembling said plurality of carriers;
a printer that prints a literature pack for at least one prescription order;
a bottle removing mechanism that removes the at least one of the plurality of bottles corresponding to the prescription order from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one of the plurality of bottles in the shipping container;
an first indicia reader that electronically reads indicia on each of said at least one bottle, and a second indicia reader that electronically reads indicia on the literature pack corresponding to the prescription order, said first and second indicia readers ensuring that each of the at least one bottle is inserted into the shipping container with the corresponding literature pack; and
a bagging machine that receives the at least one of the plurality of bottles corresponding to the prescription order from said bottle removing mechanism and inserts the at least one of the plurality of bottles and the literature pack corresponding to the prescription order in the shipping container.

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156. A system for filling at least one order, comprising:

at least one order consolidation station configured to provide at least one literature pack having a first identifier and containing printed literature relating to the at least one order and comprising patient specific information associated with the at least one order, and configured to receive at least one bottle having a second identifier and containing pharmaceutical products, wherein the at least one bottle is associated with the at least one order, and wherein the at least one order includes at least one prescription for the at least one bottle, and
the order consolidation station being further configured to read the first and second identifiers and combine automatically the at least one literature pack and the at least one bottle to send the combined at least one literature pack and the at least one bottle to at least one recipient corresponding to the at least one order, to thereby fill the at least one order.

157. The system of claim 156, wherein the at least one bottle contains pills that are individually counted, and wherein the at least one order consolidation station is configured with at least one identifier reader used to read the first and second identifiers.

158. The system of claim 156, further comprising:

at least one bottle carrier, each bottle carrier having an array of locations and configured to store each of the at least one bottle in one of the array locations; and
at least one pill dispenser that simultaneously dispenses pills into two or more of the at least one bottle.

159. The system of claim 156, wherein at least one of the first and second identifiers comprise a bar code.

160. The system of claim 156, further comprising a printer to print at least one label for a shipping container for each of the at least one order, wherein the label is printed with patient specific shipping address information.

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161. The system of claim 158, wherein each of said at least one bottle carrier has an identifier that can be read to indicate what prescription bottles are positioned in the array locations.

162. The system of claim 158, wherein each of said at least one order consolidation station further includes an error detection system configured to reject a defective shipping container.

error
select

163. The system of claim 158, wherein each of said at least one order consolidation station further comprises:

an assembly mechanism for assembling said at least one bottle carrier;

a bottle removing mechanism that removes one or more bottles corresponding to a prescription order from at least one of said plurality of carriers for subsequent packing of the at least one of the plurality of bottles in a shipping container; and

a bagging machine that receives the at least one of the plurality of bottles corresponding to the prescription order from said bottle removing mechanism and inserts the prescription order bottles in the shipping container.

164. The prescription dispensing and packing system as recited in claim 163 wherein said bottle removing mechanism is responsive to a computer in determining which of the bottles is packed in the shipping container.

165. The prescription dispensing and packing system as recited in claim 163 wherein each of said at least one order consolidation station further comprises a carrier buffer that temporarily stores one or more of said at least one bottle carrier before they are transferred to said turntable.